

B. Claims

Please amend claims 1, 7, 11 and 12, cancel claims 13-20 without prejudice and add new claim 21 as follows. A complete listing of all the claims appears below; this listing replaces all earlier amendments and listings of the claims.

1. (Currently Amended) A printing apparatus in which a carriage equipped with a printhead having a plurality of printing elements arranged in a predetermined direction is made to scan across a printing medium in a direction that intersects the direction in which the printing elements are arranged, thereby performing printing on the medium, said apparatus comprising:

~~dividing means for dividing the printing elements into a plurality of blocks each consisting of a predetermined number of successive printing elements;~~

a receive buffer for receiving print data that has been transmitted in raster form;

a print buffer for ~~dividing and~~ storing the data, which has been stored in said receive buffer, in a plurality of areas corresponding to ~~the~~ a plurality of blocks each consisting of a predetermined number of successive printing elements;

data shifting means for shifting in a direction in which the printing elements are arranged, in accordance with printing elements used in the scan, the data in the corresponding area of said print buffer;

transmitting means for transmitting the data shifted by said data shifting means to the printhead in accordance with print timings; and

control means for establishing correspondence between the areas of said print buffer and respective ones of the blocks in accordance with distance over which the printing medium is transported after the scan, and calculating the amount of the shift.

2. (Original) The apparatus according to claim 1, wherein each area of said print buffer stores data to be supplied to printing elements of the predetermined number in one scan.

3. (Original) The apparatus according to claim 1, wherein said control means has a table indicating correspondence between the areas of said print buffer and respective ones of the blocks, and said table is updated after each scan.

4. (Original) The apparatus according to claim 1, wherein the plurality of areas of said print buffer is at least twice the number of blocks.

5. (Original) The apparatus according to claim 1, wherein a flag indicating status of use is provided for each area of said print buffer.

6. (Original) The apparatus according to claim 1, further comprising print-buffer management means for performing management in such a manner that each area of said print buffer is used cyclically in a predetermined order.

7. (Currently Amended) The apparatus according to claim 1, wherein a plurality of the printheads are mounted on the carriage and each of these printheads performs color printing by printing colors that differ from one another.

8. (Original) The apparatus according to claim 7, wherein a plurality of said print buffers are provided in association with each of the printheads.

9. (Original) The apparatus according to claim 1, wherein when multiple-pass printing in which each print area is printed by a plurality of scans is performed, transport distance of the printing medium is capable of being set pass by pass.

10. (Original) The apparatus according to claim 1, wherein the printing head is an ink-jet printing head which performs printing by ejecting ink.

11. (Currently Amended) The apparatus according to claim ~~10~~ 10, wherein the printhead ejects ink by utilizing thermal energy, said printhead having a thermal energy transducer for generating thermal energy applied to the ink.

12. (Currently Amended) A printing method for performing printing by causing a carriage equipped with a printhead having a plurality of printing elements arranged in a predetermined direction to scan across a printing medium in a direction that intersects the direction in which the printing elements are arranged, thereby performing printing on the medium, said method comprising:

~~a dividing step of dividing the printing elements into a plurality of blocks each consisting of a predetermined number of successive printing elements;~~

a receive step of storing print data, which has been transmitted in raster form, in a receive buffer;

a buffer step of ~~dividing and~~ storing the data, which has been stored in the receive buffer, in a print buffer having a plurality of areas corresponding to ~~the~~ a plurality of blocks each consisting of a predetermined number of successive printing elements;

a data shifting step of shifting in a direction in which the printing elements are arranged, in accordance with printing elements used in the scan, the data in the corresponding area of the print buffer;

a transmit step of transmitting the data shifted by said data shifting step to the printhead in accordance with print timings; and

a control step of establishing correspondence between the areas of the print buffer and respective ones of the blocks in accordance with distance over which the printing medium is transported after the scan, and calculating the amount of the shift.

13. - 20. (Cancelled)

21. (New) The apparatus according to claim 1, wherein said control means establishes said correspondence based on an extent of the printing elements used for printing.